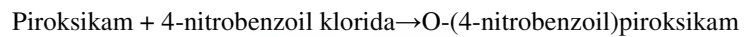


LAMPIRAN A
PERHITUNGAN PERSENTASE HASIL

Reaksi:



M :	0,010 mol	0,017 mol	-
B :	0,010 mol	0,010 mol	0,010 mol
S :	-	0,007 mol	0,010 mol

BM O-(4-nitrobenzoil)piroksikam = 480.45

Berat teoritis O-(4-nitrobenzoil)piroksikam = 0,010 mol × 480.45
= 4.8045 gram

Hasil O-(4-nitrobenzoil)piroksikam yang didapat = 2,5464 gram

Jadi, persentase hasil = $\frac{\text{Berat senyawa hasil sintesis}}{\text{Berat senyawa secara teoritis}} \times 100\%$

$$= \frac{2,5464}{4,8045} \times 100\%$$

$$= 53 \%$$

LAMPIRAN B
PERHITUNGAN BERAT

$$\begin{aligned}\text{Piroksikam} &= \text{mol} \times \text{BM} \\ &= 0,010 \text{ mol} \times 331,35 \\ &= 3,3135 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{4-nitrobenzoil klorida} &= \text{mol} \times \text{BM} \\ &= 0,017 \text{ mmol} \times 185,5 \\ &= 3,1535 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{Piridin} &= \text{mol} \times \text{BM} \\ &= 0,05 \text{ mol} \times 79,10 \\ &= 3,9550 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{Volume piridin} &= \frac{\text{berat}}{\rho} \\ &= \frac{3,9550}{0,9827} \\ &= 4,0246 \text{ ml} \approx 4 \text{ ml}\end{aligned}$$

LAMPIRAN C

PERHITUNGAN % HAMBATAN NYERI SENYAWA UJI O-(4-NITROBENZOIL)PIROKSIKAM DAN SENYAWA PEMBANDING PIROKSIKAM

Perhitungan :

Piroksikam	O-(4-nitrobenzoil)piroksikam
Dosis 1 mg/kg BB	Dosis 1 mg/kg BB
% hambatan nyeri = $\frac{90,4 - 70,6}{90,4} \times 100\% = 21,9\%$	% hambatan nyeri = $\frac{90,4 - 68,2}{90,4} \times 100\% = 24,55\%$
Dosis 2 mg/kg BB	Dosis 2 mg/kg BB
% hambatan nyeri = $\frac{90,4 - 59,2}{90,4} \times 100\% = 34,51\%$	% hambatan nyeri = $\frac{90,4 - 59}{90,4} \times 100\% = 34,73\%$
Dosis 3 mg/kg BB	Dosis 3 mg/kg BB
% hambatan nyeri = $\frac{90,4 - 51,6}{90,4} \times 100\% = 42,92\%$	% hambatan nyeri = $\frac{90,4 - 48,4}{90,4} \times 100\% = 46,46\%$
Dosis 4 mg/kg BB	Dosis 4 mg/kg BB
% hambatan nyeri = $\frac{90,4 - 39,8}{90,4} \times 100\% = 55,97\%$	% hambatan nyeri = $\frac{90,4 - 38,6}{90,4} \times 100\% = 57,30\%$
Dosis 5 mg/kg BB	Dosis 5 mg/kg BB
% hambatan nyeri = $\frac{90,4 - 31,2}{90,4} \times 100\% = 65,48\%$	% hambatan nyeri = $\frac{90,4 - 25,4}{90,4} \times 100\% = 71,90\%$

LAMPIRAN D

HASIL Uji HSD ANTARA KELOMPOK SENYAWA Uji O-(4-NITROBENZOIL)PIROKSIKAM, SENYAWA PEMBANDING PIROKSIKAM, DAN KONTROL CMC-NA 0,5%

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GELIAT

Tukey HSD

(I)Dosis	(J)Dosis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	11.40000*	3.17719	.030	.6198	22.1802
	3	19.00000*	3.17719	.000	8.2198	29.7802
	4	30.80000*	3.17719	.000	20.0198	41.5802
	5	39.40000*	3.17719	.000	28.6198	50.1802
	6	2.40000	3.17719	.999	-8.3802	13.1802
	7	11.60000*	3.17719	.026	.8198	22.3802
	8	22.20000*	3.17719	.000	11.4198	32.9802
	9	32.00000*	3.17719	.000	21.2198	42.7802
	10	45.20000*	3.17719	.000	34.4198	55.9802
	11	-19.80000*	3.17719	.000	-30.5802	-9.0198
2	1	-11.40000*	3.17719	.030	-22.1802	-.6198
	3	7.60000*	3.17719	.395	-3.1802	18.3802
	4	19.40000*	3.17719	.000	8.6198	30.1802
	5	28.00000*	3.17719	.000	17.2198	38.7802
	6	-9.00000*	3.17719	.180	-19.7802	1.7802
	7	.20000	3.17719	1.000	-10.5802	10.9802
	8	10.80000*	3.17719	.049	.0198	21.5802

	9	20.60000*	3.17719	.000	9.8198	31.3802
	10	33.80000*	3.17719	.000	23.0198	44.5802
	11	-31.20000*	3.17719	.000	-41.9802	-20.4198
3	1	-19.00000*	3.17719	.000	-29.7802	-8.2198
	2	-7.60000*	3.17719	.395	-18.3802	3.1802
	4	11.80000*	3.17719	.022	1.0198	22.5802
	5	20.40000*	3.17719	.000	9.6198	31.1802
	6	-16.60000*	3.17719	.000	-27.3802	-5.8198
	7	-7.40000*	3.17719	.433	-18.1802	3.3802
	8	3.20000	3.17719	.994	-7.5802	13.9802
	9	13.00000*	3.17719	.007	2.2198	23.7802
	10	26.20000*	3.17719	.000	15.4198	36.9802
	11	-38.80000*	3.17719	.000	-49.5802	-28.0198
4	1	-30.80000*	3.17719	.000	-41.5802	-20.0198
	2	-19.40000*	3.17719	.000	-30.1802	-8.6198
	3	-11.80000*	3.17719	.022	-22.5802	-1.0198
	5	8.60000*	3.17719	.230	-2.1802	19.3802
	6	-28.40000*	3.17719	.000	-39.1802	-17.6198
	7	-19.20000*	3.17719	.000	-29.9802	-8.4198
	8	-8.60000*	3.17719	.230	-19.3802	2.1802
	9	1.20000	3.17719	1.000	-9.5802	11.9802
	10	14.40000*	3.17719	.002	3.6198	25.1802
	11	-50.60000*	3.17719	.000	-61.3802	-39.8198
5	1	-39.40000*	3.17719	.000	-50.1802	-28.6198
	2	-28.00000*	3.17719	.000	-38.7802	-17.2198
	3	-20.40000*	3.17719	.000	-31.1802	-9.6198
	4	-8.60000*	3.17719	.230	-19.3802	2.1802
	6	-37.00000*	3.17719	.000	-47.7802	-26.2198
	7	-27.80000*	3.17719	.000	-38.5802	-17.0198
	8	-17.20000*	3.17719	.000	-27.9802	-6.4198

	9	-7.40000*	3.17719	.433	-18.1802	3.3802
	10	5.80000	3.17719	.759	-4.9802	16.5802
	11	-59.20000*	3.17719	.000	-69.9802	-48.4198
6	1	-2.40000	3.17719	.999	-13.1802	8.3802
	2	9.00000*	3.17719	.180	-1.7802	19.7802
	3	16.60000*	3.17719	.000	5.8198	27.3802
	4	28.40000*	3.17719	.000	17.6198	39.1802
	5	37.00000*	3.17719	.000	26.2198	47.7802
	7	9.20000*	3.17719	.158	-1.5802	19.9802
	8	19.80000*	3.17719	.000	9.0198	30.5802
	9	29.60000*	3.17719	.000	18.8198	40.3802
	10	42.80000*	3.17719	.000	32.0198	53.5802
	11	-22.20000*	3.17719	.000	-32.9802	-11.4198
7	1	-11.60000*	3.17719	.026	-22.3802	-.8198
	2	-.20000	3.17719	1.000	-10.9802	10.5802
	3	7.40000*	3.17719	.433	-3.3802	18.1802
	4	19.20000*	3.17719	.000	8.4198	29.9802
	5	27.80000*	3.17719	.000	17.0198	38.5802
	6	-9.20000*	3.17719	.158	-19.9802	1.5802
	8	10.60000*	3.17719	.058	-.1802	21.3802
	9	20.40000*	3.17719	.000	9.6198	31.1802
	10	33.60000*	3.17719	.000	22.8198	44.3802
	11	-31.40000*	3.17719	.000	-42.1802	-20.6198
8	1	-22.20000*	3.17719	.000	-32.9802	-11.4198
	2	-10.80000*	3.17719	.049	-21.5802	-.0198
	3	-3.20000	3.17719	.994	-13.9802	7.5802
	4	8.60000*	3.17719	.230	-2.1802	19.3802
	5	17.20000*	3.17719	.000	6.4198	27.9802
	6	-19.80000*	3.17719	.000	-30.5802	-9.0198
	7	-10.60000*	3.17719	.058	-21.3802	.1802

	9	9.80000*	3.17719	.105	-.9802	20.5802
	10	23.00000*	3.17719	.000	12.2198	33.7802
	11	-42.00000*	3.17719	.000	-52.7802	-31.2198
9	1	-32.00000*	3.17719	.000	-42.7802	-21.2198
	2	-20.60000*	3.17719	.000	-31.3802	-9.8198
	3	-13.00000*	3.17719	.007	-23.7802	-2.2198
	4	-1.20000	3.17719	1.000	-11.9802	9.5802
	5	7.40000*	3.17719	.433	-3.3802	18.1802
	6	-29.60000*	3.17719	.000	-40.3802	-18.8198
	7	-20.40000*	3.17719	.000	-31.1802	-9.6198
	8	-9.80000*	3.17719	.105	-20.5802	.9802
	10	13.20000*	3.17719	.006	2.4198	23.9802
	11	-51.80000*	3.17719	.000	-62.5802	-41.0198
10	1	-45.20000*	3.17719	.000	-55.9802	-34.4198
	2	-33.80000*	3.17719	.000	-44.5802	-23.0198
	3	-26.20000*	3.17719	.000	-36.9802	-15.4198
	4	-14.40000*	3.17719	.002	-25.1802	-3.6198
	5	-5.80000	3.17719	.759	-16.5802	4.9802
	6	-42.80000*	3.17719	.000	-53.5802	-32.0198
	7	-33.60000*	3.17719	.000	-44.3802	-22.8198
	8	-23.00000*	3.17719	.000	-33.7802	-12.2198
	9	-13.20000*	3.17719	.006	-23.9802	-2.4198
	11	-65.00000*	3.17719	.000	-75.7802	-54.2198
11	1	19.80000*	3.17719	.000	9.0198	30.5802
	2	31.20000*	3.17719	.000	20.4198	41.9802
	3	38.80000*	3.17719	.000	28.0198	49.5802
	4	50.60000*	3.17719	.000	39.8198	61.3802
	5	59.20000*	3.17719	.000	48.4198	69.9802
	6	22.20000*	3.17719	.000	11.4198	32.9802
	7	31.40000*	3.17719	.000	20.6198	42.1802

8	42.00000*	3.17719	.000	31.2198	52.7802
9	51.80000*	3.17719	.000	41.0198	62.5802
10	65.00000*	3.17719	.000	54.2198	75.7802

*. The mean difference is significant at the 0.05 level.



LAMPIRAN E

HASIL UJI ED₅₀ SENYAWA O-(4-NITROBENZOIL)PIROKSIKAM

* * * * * P R O B I T A N A L Y S I S * * * * *

* * * *

Observed and Expected Frequencies

Cell Counts and Residuals

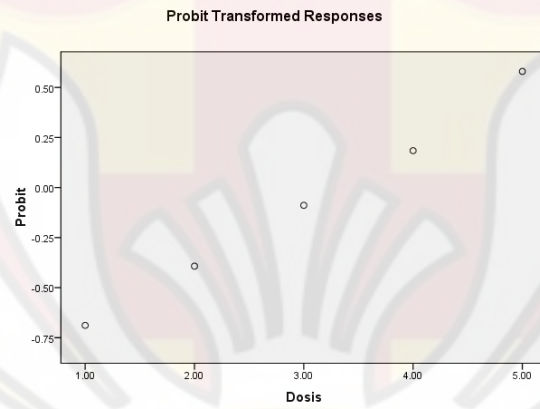
	Number	Dosis	Number of Subjects	Observed Responses	Expected Responses	Residual	Probability
PROBIT	1	1.000	100	25	24.055	.505	.241
	2	2.000	100	35	34.697	.033	.347
	3	3.000	100	46	46.713	-.253	.467
	4	4.000	100	57	59.038	-1.738	.590
	5	5.000	100	72	70.524	1.376	.705

Confidence Limits

95% Confidence Limits for Dosis			
Probability	Estimate	Lower Bound	Upper Bound
PROBIT 0.01	-4.215	-6.871	-2.659

0.02	-3.338	-5.682	-1.962
0.03	-2.782	-4.928	-1.519
0.04	-2.364	-4.362	-1.185
0.05	-2.023	-3.902	-.913
0.06	-1.734	-3.510	-.681
0.07	-1.480	-3.167	-.478
0.08	-1.252	-2.860	-.295
0.09	-1.046	-2.581	-.129
0.1	-.855	-2.325	.024
0.15	-.067	-1.267	.661
0.2	.559	-.431	1.174
0.25	1.097	.278	1.621
0.3	1.579	.906	2.032
0.35	2.026	1.473	2.426
0.4	2.451	1.992	2.821
0.45	2.861	2.465	3.231
0.5	3.265	2.897	3.668
0.55	3.669	3.297	4.139
0.6	4.080	3.676	4.643
0.65	4.504	4.049	5.182
0.7	4.951	4.430	5.764
0.75	5.434	4.832	6.400
0.8	5.971	5.273	7.116
0.85	6.598	5.781	7.955
0.9	7.386	6.416	9.017
0.91	7.576	6.568	9.274
0.92	7.783	6.734	9.553

0.93	8.010	6.916	9.860
0.94	8.264	7.119	10.204
0.95	8.554	7.350	10.596
0.96	8.894	7.622	11.057
0.97	9.313	7.955	11.624
0.98	9.869	8.397	12.378
0.99	10.745	9.094	13.567



LAMPIRAN F

HASIL UJI ED₅₀ SENYAWA PIROKSIKAM

* * * * * P R O B I T A N A L Y S I S * * * * *

* * * *

Cell Counts and Residuals

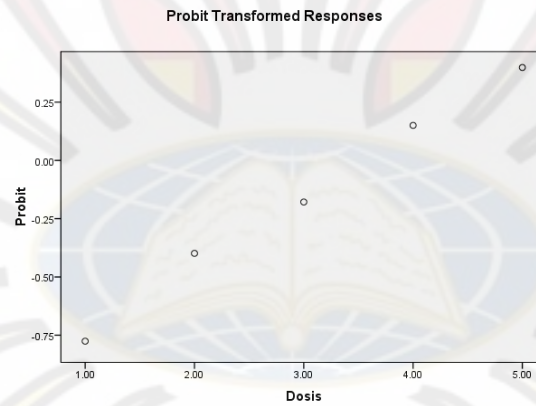
	Numb er	Dosi s	Numb er of Subjec ts	Observe d Respons es	Expecte d Respons es	Residu al	Probabili ty
PROBI T	1	1.00 0	100	22	23.049	-1.149	.230
	2	2.00 0	100	34	32.691	1.809	.327
	3	3.00 0	100	43	43.656	-.736	.437
	4	4.00 0	100	56	55.135	.835	.551
	5	5.00 0	100	65	66.197	-.707	.662

Confidence Limits

Probabilit y	95% Confidence Limits for Dosis
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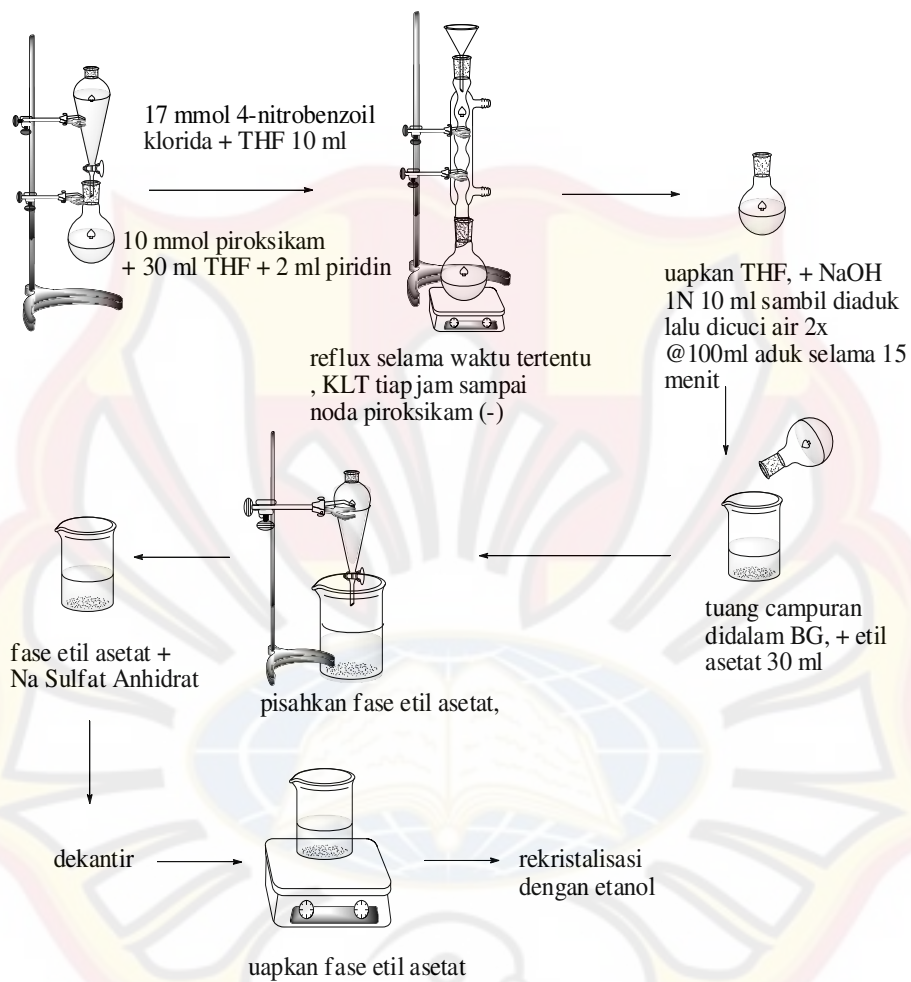
		Estimate	Lower Bound	Upper Bound
PROBIT	0.01	-4.503	-7.554	-2.789
	0.02	-3.559	-6.239	-2.049
	0.03	-2.960	-5.405	-1.579
	0.04	-2.510	-4.779	-1.225
	0.05	-2.143	-4.270	-.937
	0.06	-1.831	-3.837	-.691
	0.07	-1.558	-3.457	-.475
	0.08	-1.313	-3.118	-.281
	0.09	-1.090	-2.810	-.105
	0.1	-.885	-2.526	.058
	0.15	-.036	-1.356	.736
	0.2	.639	-.434	1.282
	0.25	1.217	.349	1.759
	0.3	1.737	1.038	2.202
	0.35	2.219	1.656	2.631
	0.4	2.676	2.213	3.069
	0.45	3.118	2.711	3.533
	0.5	3.553	3.159	4.033
	0.55	3.988	3.569	4.570
	0.6	4.430	3.962	5.140
	0.65	4.887	4.350	5.746
	0.7	5.369	4.749	6.396
	0.75	5.889	5.172	7.104

0.8	6.468	5.637	7.899
0.85	7.142	6.174	8.830
0.9	7.991	6.845	10.007
0.91	8.196	7.007	10.291
0.92	8.419	7.182	10.600
0.93	8.664	7.375	10.941
0.94	8.937	7.590	11.321
0.95	9.249	7.835	11.755
0.96	9.616	8.123	12.265
0.97	10.066	8.476	12.893
0.98	10.665	8.945	13.727
0.99	11.609	9.684	15.043



LAMPIRAN G

SKEMA SINTESIS O-(4-NITROBENZOIL)PIROKSIKAM



LAMPIRAN H

SERTIFIKAT ANALISA PIROKSIKAM

南通精华制药股份有限公司检验报告
NANTONG JINGHUA PHARMACEUTICAL CO. LTD.
CERTIFICATE OF ANALYSIS
APIs ADD: 43 Yaogang Road, Nantong Jiangsu China
Tel: 86-513-85609405/85609406

17/3 '09 AD 1

吡罗昔康
PIROXICAM MICRONIZED

Batch No.	PRX2009005M	Manufacture Date	2009.3.4
Total Quantity	200.0KG	Report Date	2009.3.5
Commercial Quantity	200.0KG	Re-test Date	2012.3.3
Inspection No.	09030020		

TEST	SPECIFICATIONS (USP)	RESULTS
Characteristics	off-white to light tan or light yellow odorless powder	Complies
Identification	A. IR B. UV C. TLC	Complies
Water	≤0.5%	0.32%
Residue on ignition	≤0.3%	0.14%
Heavy metals	≤0.005%	<0.005%
Organic volatile impurities	complies	Complies
Residual solvents	Ethanol ≤0.5%	<0.5%
Particle size	100% ≤ 1000 mesh	Complies
Assay	97.0-103.0%	99.46%

Conclusion The product meets the requirements of USP 31 and the additional items defined by customer

Analyst *[Signature]* Supervisor *[Signature]* Chief of Laboratory *[Signature]*

QA Release Date *[Signature]*

TATA
PT. TATA PHARMACEUTICAL

LAMPIRAN I
SERTIFIKAT HEWAN COBA MENCIT (*MUS MUSCULUS*)

CV. SURABAYA MOUSE SERVICE
WEDORO MASJID NO. 20-E RT. 01 RW.05 WEDORO
KECAMATAN WARU SIDOARJO
TELP. 081938310682 – 03170259110

Yang bertanda tangan di bawah ini:

Nama : M. Syamsul Bahri, S.Kom

Selaku penanggung jawab Pengembangan Hewan Percobaan

Menerangkan bahwa yang digunakan pada penelitian:

Judul : Sintesis O-(4-Nitro Benzoi)l Piroksikam dan Uji Aktivitas
Analgesik terhadap Mencit (*Mus Musculus*).
Peneliti : Nurdiansyah Kasim.
Institusi : Fakultas Farmasi Universitas Katolik Widya Mandala
Surabaya
NRP : 2443006126

Merupakan hewan uji dengan spesifikasi:

Mencit galur : Swiss Webster
Umur : 2 – 3 bulan
Jenis kelamin : Jantan
Jumlah : 55 ekor

Demikian surat keterangan ini dibuat untuk dapat digunakan sebaik-baiknya.

Sidoarjo, 30 Maret 2010

Penanggung Jawab



(M. Syamsul Bahri, S.Kom)